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NRC's Fuel Facility Regulations

- NRC issues licenses for possession and use of nuclear material at fuel facilities
 - Source material (natural uranium and thorium) licensed under 10 CFR Part 40
 - Special nuclear material (SNM) (uranium enriched in U-235 or U-233, plutonium, or U-233) licensed under 10 CFR Part 70
- Use of source material and SNM in any new or advanced technology can be licensed under Parts 40 and 70 unless it is prohibited by law or exceeds any safety/safeguard envelope considerations of Parts 40 and 70
- Parts 40 and 70 licenses have been issued for diverse uses of source material and SNM at various facilities





Fuel Facilities Licensed/Certified by NRC

- Uranium Fuel Fabrication Facilities
 - AREVA, Richland, WA
 - AREVA, Lynchburg, VA
 - Westinghouse, Columbia, SC
 - General Electric-Hitachi, Wilmington, NC
 - NFS, Erwin, TN
 - BWXT, Lynchburg, VA
- Uranium Enrichment Facilities
 - URENCO USA, National Enrichment Facility, Eunice NM
 - USEC, American Centrifuge Plant, Piketon, OH
 - USEC, Gaseous Diffusion Plants, Paducah/Portsmouth
- Uranium Conversion Facility
 - Honeywell, Metropolis, IL





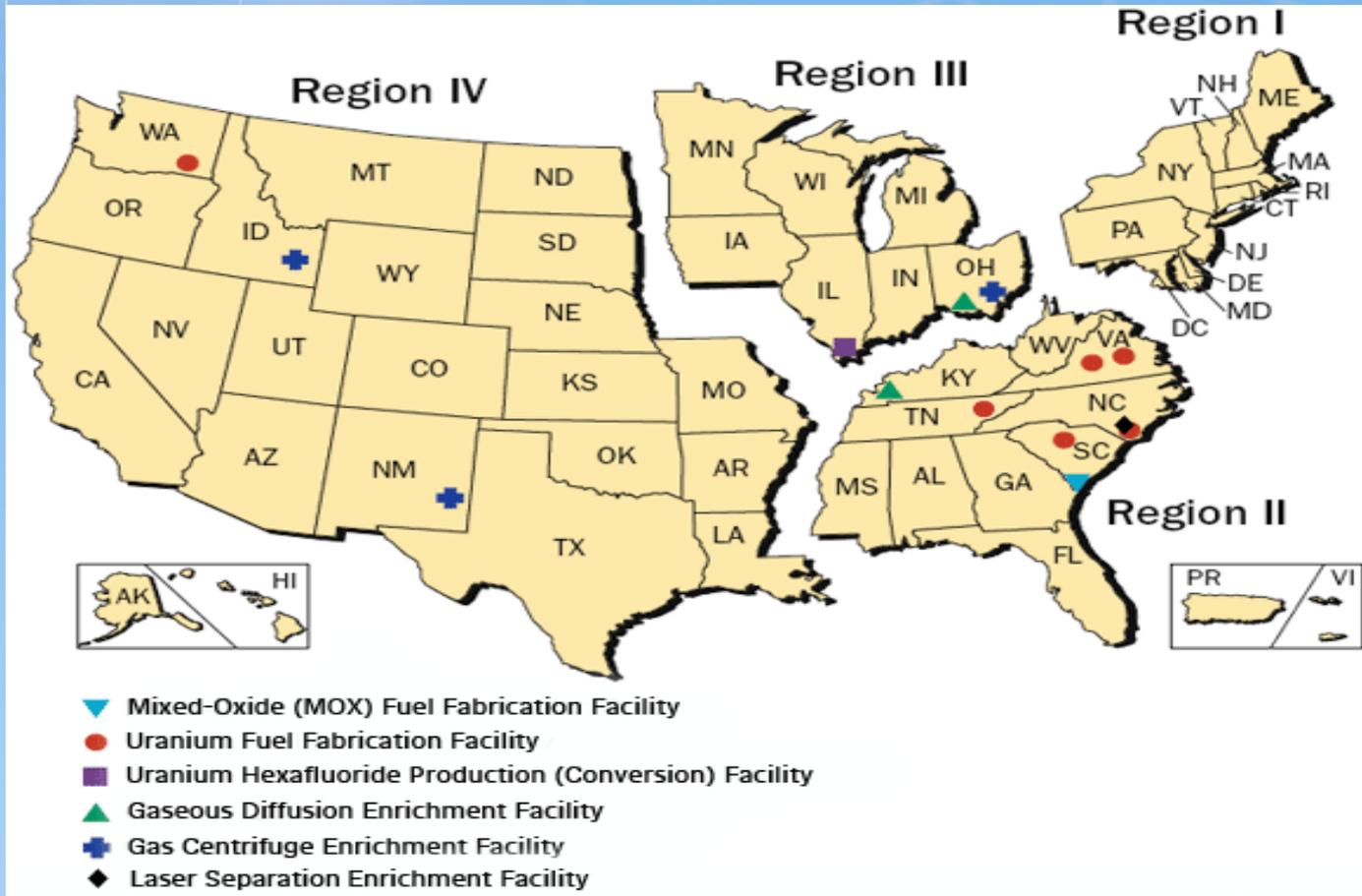
Ongoing License Application Reviews

- Mixed Oxide Fuel Fabrication, Aiken SC
 - Safety/safeguards review completion expected by end of 2010
 - Licensing and completion of construction expected in 2015
- AREVA, Eagle Rock Gas Centrifuge enrichment, Idaho Falls, ID
 - Licensing decision expected by the end of 2011
- GE Hitachi, Laser Enrichment, Wilmington NC
 - Licensing decision expected in by the end of 2011
- International Isotopes, DUF6 Deconversion, Hobbs NM
 - Licensing decision expected by January 2012





Commercial Fuel Facilities





Risk Informed Performance Based Requirements

- Requirements in Subpart H of 10 CFR Part 70 are risk-informed and performance-based

Example

- An accident sequence must be “highly unlikely” if
 - Dose to a worker is 100 rem or more
 - Dose to a member of the public is 25 rem or more
 - An accident sequence must be “unlikely” if
 - Dose to a worker is more than 25 rem but less than 100 rem
 - Dose to a member of the public is greater than 5 rem but less than 25 rem
- Such requirements provide applicants and licensees flexibility in selecting the methodology to demonstrate compliance



Guidance Documents



- NRC produces guidance documents for NRC staff to conduct its reviews and inspections
- These may or may not be technology specific
- NRC responds to any interest/intent to submit license applications involving new or advanced technology by reviewing existing regulations and guidance for regulatory gaps





Regulatory Framework for Reprocessing

- The NRC is considering revising its regulatory framework for reprocessing
- The NRC completed a gap analysis of the regulations in 2009
- The NRC is in the process of developing the regulatory bases to appropriately address the gaps
- The NRC intends to consider, to the extent practical, a risk-informed, performance-based and technology neutral regulatory framework for reprocessing





Advanced Fuel Cycle Research

- The NRC is following public policy debates and discussions on disposition of spent fuel
- Any research initiatives and plans would be in accordance with policy decisions

